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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/535,449	05/19/2005	Walter Fix	411000-132	6017
27162 7590 11/26/2007 CARELLA, BYRNE, BAIN, GILFILLAN, CECCHI, STEWART & OLSTEIN 5 BECKER FARM ROAD ROSELAND, NJ 07068			EXAMINER SUCH, MATTHEW W	
			ART UNIT 2891	PAPER NUMBER
			MAIL DATE 11/26/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/535,449	Applicant(s) FIX ET AL.	
	Examiner Matthew W. Such	Art Unit 2891	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 October 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>9/28/05, 10/31/05, 5/24/07</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of Invention I, drawn to claims 1-2 in the reply filed on 3 October 2007 is acknowledged.

2. Claims 1-2 and 3-18 are hereby rejoined in the present applicant since they longer lack unity under PCT Rule 13.1 and PCT Rule 13.2, due to Applicant amendment. **The restriction requirement as set forth in the Office Action dated 6 September 2007 is hereby withdrawn. Therefore, claims 1-18 are being considered on the merits in the present Office Action.**

3. In view of the withdrawal of the restriction requirement as to the rejoined inventions, applicant(s) are advised that if any claim presented in a continuation or divisional application is anticipated by, or includes all the limitations of, a claim that is allowable in the present application, such claim may be subject to provisional statutory and/or nonstatutory double patenting rejections over the claims of the instant application. Once the restriction requirement is withdrawn, the provisions of 35 U.S.C. 121 are no longer applicable. See *In re Ziegler*, 443 F.2d 1211, 1215, 170 USPQ 129, 131-32 (CCPA 1971). See also MPEP § 804.01.

Priority

4. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

5. The information disclosure statement filed 28 September 2005 fails to comply with 37 CFR 1.98(a)(3) because it does not include a concise explanation of the relevance, as it is presently understood by the individual designated in 37 CFR 1.56(c) most knowledgeable about the content of the information, of each patent listed that is not in the English language. These references have been placed in the application file, but the information referred to therein has not been considered.

Drawings

6. The subject matter of this application admits of illustration by a drawing to facilitate understanding of the invention. Applicant is required to furnish a drawing under 37 CFR 1.81(c). No new matter may be introduced in the required drawing. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d).

Claim Objections

7. Claim 2 objected to because of the following informalities: the phrase "the semiconductive functional Layer" should read "the semiconductor functional layer" in order to eliminate extraneous capitalization.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

8. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

9. Claims 1-18 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Claims 1 and 3 each requires a layer with functional layers with the same chemical properties but different electrical properties. This requirement contradicts the specification, which describes that the two functional layers indeed have some chemical difference, such as redox potential, or extraneous atoms, doping, radiation, other chemicals, or treatment (Page 3, Lines 3-17; Page 4, Lines 6-15).

10. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

11. Claims 1-18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

a. Claim 1 recites the limitations of “the first functional layer”, “the same organic material”, “the second and adjacent function layer” and “the same chemical properties” in Lines 2-4. There is insufficient antecedent basis for these limitations in the claim. Furthermore, the recitations render the claim indefinite because it is unclear if, for example the phrase “the second and adjacent functional layer” is referring to two distinct elements, such as a second functional layer as well as an adjacent functional layer, or if the second functional layer is adjacent to some other layer (which is further not identified). The claim also recites “differing at least partly therefrom in its electrical physical properties”, which renders the claim indefinite, because it is unclear what “its” is referring to, such as a first functional layer, a second functional layer, the combination of both, or a comparison of one functional layer with the adjacent functional layer, etc. For the purposes of compact prosecution, the Examiner provisionally interprets (as best can be understood from the specification) that there are two unique functional layers comprising the same material but having unique electrical properties. The phrase “having the same chemical properties” further renders the claim indefinite, because it is unclear which chemical properties the phrase is referring to. The phrase “having the same chemical properties, but differing at least partly therefrom in its electrical physical properties” renders the claim indefinite, because it is unclear how the chemical properties of two layers can be identical while the electrical properties are different. The phrase also contradicts the Applicant's disclosure as well as, for example, the dependant claim 2, which describe that the two functional layers indeed have some chemical difference, such as redox potential, or extraneous atoms, doping, radiation, other chemicals, treatment, etc.

The phrase “electrical physical properties” is also indefinite, because it is unclear whether the claim also requires that the physical properties of functional layers be different, and if so, which physical properties are different. Finally, the manner in which claim is written renders the indefinite, because it is unclear whether the functional layers are intended to be organic materials or not.

b. Regarding claim 2, the recitation of “at least one other functional layer” renders the claim indefinite because it is unclear whether “at least one other functional layer” is referring to “the first functional layer”, “the same organic material”, or “the second and adjacent function layer” of claim 1, or if the phrase is referring to an additional and distinct element. For the purposes of compact prosecution, the Examiner provisionally interprets that “at least one other functional layer” is a second functional layer distinct from a first functional layer in order to maintain a consistent interpretation as applied to indefinite claim 1. The recitation of “differ only in their redox potential” renders the claim indefinite because the parent claim requires that the first functional layer and second functional layer have the same chemical properties.

c. Claim 3 recites the limitation “the same chemical properties” in Line 3. There is insufficient antecedent basis for this limitation in the claim. The phrase “having the same chemical properties” further renders the claim indefinite, because it is unclear which chemical properties the phrase is referring to. The phrase “having the same chemical properties, but different electrical properties” renders the claim indefinite, because it is

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unclear how the chemical properties of two layers can be identical while the electrical properties are different. The phrase also contradicts the Applicant's own specification as well as the present claim, which describe that the two functional layers indeed have some chemical difference, such as a modification by partial reaction (as required by the claim), redox potential, or extraneous atoms, doping, radiation, other chemicals, treatment, etc. The recitation of "a single process step" renders the claim indefinite because it is unclear what is included and excluded from "a single process step". As such, any process can be arbitrarily defined as "a single process step". Finally, the manner in which claim is written renders the indefinite, because it is unclear whether the functional layers are organic materials or not.

d. Regarding claim 4, the recitation of "electrodes and/or conductor tracks and a semiconductive functional layer" renders the claim indefinite because it is unclear whether the limitation(s) following the phrase are part of the claimed invention, such as electrodes, conductor tracks, a semiconductor functional layer, electrodes and conductor tracks, conductor tracks and a semiconductive functional layer, electrodes and a semiconductive functional layer, all three elements, or none. The recitation of "in one process step" renders the claim indefinite because it is unclear what is included and excluded from "one process step". As such, any process can be arbitrarily defined as "one process step". The claim further requires that the structuring is completed in "one functional layer". However, this renders the claim indefinite because it is unclear whether "one functional layer" is referring to "a functional layer" or "another different

functional layer” of claim 3, or if it is referring to the “electrodes and/or conductor tracks and a semiconductor functional layer” of the present claim, or if the phrase is referring to an additional and distinct element. For the purposes of compact prosecution, the Examiner provisionally interprets that the structuring occurs in “another different functional layer” in order to maintain a consistent interpretation as applied to indefinite claim 3.

e. Claim 5 describes that one of the functional layers is a semiconductive layer but that a conductive structure is formed in the semiconductive functional layer. This renders the claim indefinite, because it is unclear whether the conductive structure is a distinct third functional layer, which is inconsistent with the two functional layers of claim 3, or if the conductive structure is one of the two functional layers of claim 3. Claims 5 and 9 also recites the limitation “the uncovered regions” in Line 4. There is insufficient antecedent basis for this limitation in the claim. The phrase further renders the claim indefinite because it is unclear what the regions comprise “the uncovered regions”. For the purposes of compact prosecution, the Examiner provisionally interprets that uncovered regions correspond to a conductive structure.

f. Claim 7 requires that the redox composition is partially applied to the semiconductive functional layer, however, it appears from claim 5 that the redox composition is partially applied to the conductive structure.

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- g. Claim 8 recites the limitation “the semiconductive functional layer” in Line 2. There is insufficient antecedent basis for this limitation in the claim. Furthermore, it is unclear to which functional layer “the semiconductive functional layer” is intended to refer to, or if it is referring to a distinct element.
- h. Claim 10 recites the limitation “the semiconductive layer” in Line 2. There is insufficient antecedent basis for this limitation in the claim. Furthermore, it is unclear whether “the semiconductive layer” is intended to be “the semiconductive functional layer” or if it is referring to a distinct element.
- i. Claims 12-14 each requires that a redox composition is “partially applied” to the semiconductive layer. Something cannot be “partially applied” to a layer, it is either applied or not applied. For the purposes of compact prosecution, the Examiner provisionally interprets that the redox composition is applied to a part of the semiconductive layer.

Claim Rejections - 35 USC § 102

12. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

13. In so far as definite, claims 1-18 are rejected under 35 U.S.C. 102(b) as being anticipated by Chandross ('977).

Chandross teaches both a method and product of producing organic electronic components by locally changing the redox potential of functional layers such as, for example, polyaniline films using an oxidizing agent by printing polyaniline with oxidizing agent, such as a salt (Abstract; Col. 2, Lines 26-51, 62-65; Col. 4, Lines 39-57; Figures, for example). The conductivity of the polyaniline layer is changed by local partial time-stable oxidation, thereby forming conductive, resistive, and semiconductive regions in the film (Col. 2, Lines 26-32; Col. 5, Lines 13-62; Figs. 2-3, for example). The semiconductive layer is covered by a photoresist (Element 37; Col. 6, Lines 59-67, for example), which introduces (in a controlled manner) into a semiconductive functional layer by partially covering and treatment of the uncovered regions with a redox composition (Figs. 2-3 and 6-7 and associated text, for example). The Examiner further notes that the claims fail to define a degree (such as a conductivity level) which distinguishes a semiconductive state from a conductive state, for example, and as such the conductivities can be arbitrarily defined so long as the conductivity of the semiconductive state is lower than the conductive state. The claims do not limit "a single process step" or "one process step" and as such any method can be arbitrarily defined to meet the claims. Regarding the term, "printing", the Examiner notes that the claim fails to distinguish how the printing occurs, and as such, any arbitrary method, such as a spin-coating, is a printing process. Regarding the recitation of "an electronic organic component" and "an organic electronic component", the Examiner notes that a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the

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claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. See, e.g., *In re Pearson*, 181 USPQ 641 (CCPA); *In re Minks*, 169 USPQ 120 (Bd Appeals); *In re Casey*, 152 USPQ 235 (CCPA 1967); *In re Otto*, 136 USPQ 458, 459 (CCPA 1963). See MPEP §2114. The Examiner further notes that the claims do not actually require any organic material. Nevertheless, Chandross teaches organic materials.

Conclusion

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Gundesen ('396 and '806), Mutsaers ('450), Day ('995), Bulovic ('057), Amundson ('144) and Brown ('530) each present methods and devices in which the conductivity level of a material is altered by, for example, redox processes, irradiation, or exposure to air.

Contact Information

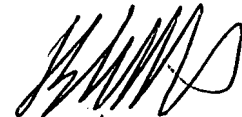
15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew W. Such whose telephone number is (571) 272-8895. The examiner can normally be reached on Monday - Friday 9AM-5PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bradley W. Baumeister can be reached on (571) 272-1722. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Matthew W. Such
Examiner
Art Unit 2891



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